

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte DAVID W. GERBER  
and ROBERT R. PIEPHO

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Appeal No. 1999-1478  
Application 08/742,327<sup>1</sup>

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ON BRIEF

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Before FRANKFORT, STAAB, and NASE, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final

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<sup>1</sup>Application for patent filed November 1, 1996.

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rejection of claims 1, 3-5 and 10-12. Claims 2 and 6-9 have  
been canceled.

Appellants' invention relates to an improved main shaft in a coal pulverizer. The main shaft includes gear center hold down threads dividing a yoke end from the other end of the main shaft. A distal end of the yoke end includes a tapered yoke end terminating with a threaded portion. The improvement comprises the portion of the main shaft beginning at but not including the gear center hold down threads to and including the yoke end and the tapered yoke end of the main shaft being nitride treated and the tapered yoke end having a dry film lubricant applied thereon.<sup>2</sup>

Claim 1 is representative of the subject matter on appeal and is reproduced below:

1. In a coal pulverizer having a main shaft, the main shaft including a yoke end at one end of the main shaft with the yoke end including a tapered yoke end at a distal end thereof, the tapered yoke end of the main shaft terminating with a threaded portion, the main shaft further including gear

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<sup>2</sup> Our review of the record has revealed that the amendment to the specification requested in the preliminary amendment filed November 1, 1996 (Paper No. 8) has not been entered. The amendment was directed to line 2 of the amendment filed March 25, 1996 (Paper No. 3), to page 8, line 6 of the specification. During any further prosecution before the examiner, it appears that either the amendment should be entered or the appellants should be notified of the non-entry.

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center hold down threads dividing the yoke end from the other  
end of the main shaft, wherein the improvement comprises the  
main shaft having a

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portion of the main shaft being nitride treated, said portion of the main shaft beginning at but not including the gear center hold down threads to and including the yoke end and the tapered yoke end of the main shaft, and the tapered yoke end having a dry film lubricant applied thereon.

The prior art references relied upon by the examiner in rejecting the appealed claims are:

Connard	3,344,817	Oct.
3, 1967		
Itoh et al. (Itoh)	5,215,823	Jun. 1,
1993		

Also relied upon is appellants' admitted prior art (pages 1-3). Appellants' admitted prior art includes a coal pulverizer 2 with a yoke 12, a horizontal pinion shaft 16 and a main shaft 14, the main shaft 14 including a yoke end 20 at one end of the main shaft 14 with the yoke end 20 including a tapered yoke end 25 at a distal end thereof, the tapered yoke end 25 of the main shaft 14 terminating with a threaded portion 26, the main shaft 14 further including gear center hold down threads 24 dividing the yoke end 20 from the other end of the main shaft 14.<sup>3</sup>

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<sup>3</sup>It is noted that the specification of the present application refers to the main shaft using two different

Claims 1, 3-5 and 10-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over appellants' admitted prior art in view of Itoh or alternatively over appellants' admitted prior art in view of Connard and Itoh.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejections and the conflicting viewpoints advanced by the examiner and appellants regarding the rejections, we make reference to the final rejection (Paper No. 12, mailed July 15, 1997) and the examiner's answer (Paper No. 16, mailed April 13, 1998) for the reasoning in support of the rejections, and to appellants' brief (Paper No. 15, filed January 13, 1998) for the arguments thereagainst.

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reference numerals, i.e. 14 and 22. Figure 2 of the present application uses reference numeral 14 to designate the main shaft and reference numeral 22 to designate a portion of the main shaft. Therefore, it appears that on page 6, lines 12, 14 and 15 (i.e. the amendment to line 15 in paper No. 10), at each occurrence, reference numeral 22 should be changed to reference numeral 14.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we have made the determinations which follow.

In rejecting claim 1 under either appellants' admitted prior art in view of Itoh or alternatively over appellants' admitted prior art in view of Connard and Itoh, the examiner relies upon Itoh for a teaching of applying a dry film lubricant to the shaft. The examiner has taken the position that Itoh discloses that solid lubricating film has excellent lubricating properties and will last for a long time. The examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a dry film lubricant to the shaft of the admitted prior art to prevent damage to the shaft by friction. The examiner further concludes that in a coal pulverizer a dry film

lubricant would prevent particles from sticking to the shaft since the surface of the shaft would not be wet as with a liquid lubricant.

Like appellants (brief, page 8), we find the examiner's rejection of claim 1 to be improper. Itoh teaches the use of a solid lubricating film, i.e. a dry film lubricant, between sliding component parts for the purpose of reducing friction coefficient and enhancing wear resistance of the sliding component parts even under conditions of high loads or high surface pressure particularly in bearings and mechanical seals (col. 4, lines 31-49). In Figure 1 of the present application, it can be seen that the main shaft 14 is part of a drive system for the coal pulverizer. Pinion shaft 16 drives main shaft 14 which in turn drives the yoke 12. In order for the coal pulverizer to properly operate the main shaft must drive the yoke through the connection at the tapered yoke end of the main shaft. Therefore, in appellants' coal pulverizer it would be undesirable to have sliding motion between the tapered yoke end 25 of the main shaft 14 and the yoke 12. The teaching of Itoh would lead one to expect that



applying a solid film lubricant on the tapered yoke end 25 (i.e. at the connection between the main shaft 14 and the yoke 12) would result in a sliding motion between the main shaft 14 and the yoke 12. Such sliding motion would be detrimental to the operation of the coal pulverizer. Thus, as argued in appellants' brief (page 8) there is nothing in the Itoh reference which would teach or suggest applying a dry film lubricant to the tapered yoke end of a main shaft for a coal pulverizer.

In our opinion, in searching for an incentive for modifying the prior art main shaft, the examiner has impermissibly drawn from appellants' own teachings and fallen victim to what our reviewing Court has called "the insidious effect of a hindsight syndrome wherein that which only the inventor has taught is used against its teacher." W. L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983) cert. denied, 469 U.S. 851 (1984). It is thus our view that the examiner's conclusion of obviousness is based on a hindsight reconstruction using appellants' own disclosure as a blueprint to arrive at the

claimed subject matter. Since it is our determination that the teachings and suggestions found in Itoh would not have led one of ordinary skill in the art to provide such a dry film lubricant on the tapered yoke end of a main shaft in a coal pulverizer like that shown in the admitted prior art, we refuse to sustain the examiner's rejection of claim 1 under 35 U.S.C. § 103(a).

We have also considered the examiner's rejection of claim 1 over appellants' admitted prior art in view of Connard and Itoh. Itoh has been discussed above. Connard discloses a process for selectively hardening a portion of a steel screw. Connard provides no disclosure concerning dry film lubricants. Therefore, the Connard reference provides no additional teachings which would overcome the deficiencies discussed above concerning hindsight and a lack of teaching to provide such a dry film lubricant on the tapered yoke end of a main shaft in a coal

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pulverizer like that shown in the admitted prior art.  
Accordingly, again we refuse to sustain the examiner rejection  
of claim 1 under 35 U.S.C. § 103(a).

In view of the foregoing, the examiner's decision  
rejecting claim 1, and claims 3-5 and 10-12 which depend  
therefrom, under 35 U.S.C. § 103(a) is reversed.

REVERSED

CHARLES E. FRANKFORT	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
LAWRENCE J. STAAB	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
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JEFFREY V. NASE	)	
Administrative Patent Judge	)	

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